

Application # 09/758,573
Submitted December 14, 2007
Reply to Office Action of June 14, 2007

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I. AMENDMENT TO THE CLAIMS

3. This listing of claims will replace all prior versions, and listings, of claims in the application:

II. LISTING OF CLAIMS

1. (currently amended) A method of increasing image processing performance by explicitly copying a first instance of an image existing in an I/O RAM into an extra second copy of said image in a buffer in main memory prior to performing CPU intensive operations on the data copied from said image, wherein the CPU access is made directly to the extra second copy of the data in main memory and not to the first instance in said I/O RAM;

whereby image processing time is reduced compared to the image processing time required if the CPU intensive operations were performed on the first instance of the image in the I/O RAM.

2. (previously presented) The method of claim 1 wherein said main memory is cached.
3. (previously presented) The method of claim 1 wherein said main memory is cached in a CPU cache.
4. (previously presented) The method of claim 1 wherein said main memory is cached in an external cache.
5. (original) The method of claim 1 wherein said copying is accomplished by DMA circuitry.
6. (original) The method of claim 1 wherein said copying is accomplished by calling a memory copy function.
7. (original) The method of claim 6 wherein said image data is copied in a single call to said memory copy function.

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8. (original) The method of claim 6 wherein a subset of said image data is copied one line at a time by repeated calls to said memory copy function.
9. (original) The method of claim 6 wherein a subset of said image data is copied by repeated calls to said memory copy function.
10. (canceled)
11. (previously presented) The method of claim 1 wherein said I/O RAM is associated with a video digitizer.
12. (previously presented) A method of increasing image processing performance by explicitly storing the processed results of CPU intensive operations in a first instance of a buffer in main memory prior to copying the processed data into a distinct second copy of the processed data in an image in an I/O RAM, wherein the CPU results are written directly to the first instance of the processed data in said main memory and not to the distinct second copy in said I/O RAM.
13. (original) The method of claim 12 wherein said I/O RAM is associated with a video output device.
14. (original) The method of claim 13 wherein said video output device drives a computer monitor.
15. (original) The method of claim 13 wherein said video output device outputs video signals.
16. (previously presented) A machine for image processing comprising:
 - a) a main memory for storing an image;
 - b) a processor for processing said image;
 - c) an I/O device; and

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- d) a means for copying image data between said main memory and said I/O device, wherein said image data is copied from said I/O device to a second copy of said image data in a buffer in said main memory prior to being processed by said processor or wherein said processor processes said image data using a buffer in said main memory before copying the processed image data from said main memory to said I/O device,

whereby image processing time is reduced.

- 17. (original) The machine of claim 16 wherein said I/O device is a means for inputting an image.
- 18. (original) The machine of claim 16 wherein said I/O device is a means for outputting an image.
- 19. (original) The machine of claim 16 where said processor executes programs to enhance, compress, encrypt, or reformat said image data.
- 20. (original) The machine of claim 16 where said processor executes programs to decrypt, decompress, or enhance said image data.
- 21. (previously presented) A network of machines comprising:
 - a) one or more first machines which implement(s) the method of claim 1; and
 - b) one or more second machines which implement(s) the method of claim 12,
 - i) whereby a video signal is digitized and encoded by at least one of said first machines, transmitted across said network to other of said second machines that decode and output the results.
- 22. (previously presented) A machine for image processing comprising:
 - a) an image input device having image data;

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- b) a processor for processing said image data, connected to said input device;
 - c) a main memory, connected to said processor;
 - d) a means for copying said image data from said input device to a second copy of said image data in a buffer in said main memory prior to being processed by said processor, whereby image processing time is reduced compared to the image processing time required if the processor processed the first copy of the image data in the input device.
23. (previously presented) The machine of claim 22 where said processor performs image processing to enhance or reformat said image data.
24. (previously presented) The machine of claim 22 where said processor performs image processing to encrypt said image data.
25. (previously presented) The machine of claim 22 where said processor performs image processing to compress said image data.
26. (previously presented) A machine for image processing comprising:
- a) an image output device requiring image data for output;
 - b) a processor for generating said image data, connected to said output device;
 - c) a main memory, connected to said processor;
 - d) a means for copying, after said processor generates a first set of image data in said main memory, said first set of image data from said main memory to a second copy of said image data in said output device, whereby image processing time is reduced compared to the image processing time required if the processor generated the image data directly in said output device instead of said main memory.

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27. (previously presented) The machine of claim 26 where said processor performs image processing to enhance said image data prior to copying to the output device.
28. (previously presented) The machine of claim 26 where said processor performs image processing to decrypt said image data prior to copying to the output device.
29. (previously presented) The machine of claim 26 where said processor performs image processing to decompress said image data prior to copying to the output device.
30. (previously presented) The method of claim 12 wherein said copying is accomplished by DMA circuitry.
31. (previously presented) The method of claim 12 wherein said copying is accomplished by calling a memory copy function.
32. (previously presented) The machine of claim 16 wherein said means for copying includes DMA circuitry.
33. (previously presented) The machine of claim 22 wherein said means for copying includes DMA circuitry.